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JUMBO MINING CO.

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JAN 12 1990

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Austin, Texas 78730
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Telex # 76-7177

DOGM
MINERALS PROGRAM
FILE COPY

January 9, 1990
File: UDH1990

DIVISION OF
OIL, GAS & MINING
Mr. Don A. Ostler, P.E.
Executive Secretary
Utah Water Pollution Control Committee
Department of Health
Division of Environmental Health
P.O. Box 16690
Salt Lake City, Utah 84116-0690

Dear Mr. Ostler:

Re: DRUM MINE PROJECT
Your letter Nov. 27, 1989

Pursuant to your letter dated November 27, 1989, wherein you advise that the neutralization plan previously accepted on March 30, 1989 now requires revision and request our proposals for same by January 12, 1990, we have the following:

- 1) In our letter dated February 2, 1989, Item 4), page 3, we submitted a detailed "Neutralization Criteria for Heap Leach Pads and Ponds".
- 2) By your letter dated March 16th you requested additional information on our Neutralization Criteria and requested that the process pond flexible membranes be tested and disposed of in an EPA acceptable manner. We replied to these requests by telephone on March 23rd after receiving this letter.
- 3) By your letter dated March 30, 1989 you approved the submitted plans and gave us written Authorization to Operate.

In your November 27th letter you cite a 1984 permit requirement which stated:

"Detoxification of the rock when leaching is completed will be carried out by chemical addition to the leach spray system to breakdown residue cyanide prior to covering with topsoil and seeding for reclamation."

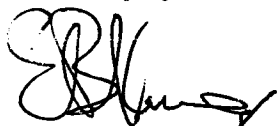
It is our understanding that your letter dated March 30, 1989 constituted an amendment to the 1984 permit, in that it adds new requirements and brings up to date various other criteria, particularly that dealing with detoxification of the heaps after leaching is finished. In light of the above, we wonder if this request for modification of conditions established and accepted only eight months prior is in order.

We would further comment that the new pH requirements of 6.5 to 7.5 are

not compatible with the higher pH's shown to exist locally in the three known sources of ground water in the area. None of these show pH values below 7.0 and a better fitting range of values would be 7.5 to 8.5. This was recognized in the acceptance of our Neutralization scheme by your March 30, 1989 letter. The "chemical" added in this scheme to accomplish this neutralization is carbonic acid, which is formed in the leaching solutions by the absorption of carbon dioxide from the air during the spraying process. This method has been demonstrated to be very effective, and is environmentally preferred to that of adding other acids which are not native to the environment, and of necessity add a foreign anion to the system.

Please let us know if we can be of further assistance on this matter.

Sincerely yours,

A handwritten signature in dark ink, appearing to read 'E. B. King', with a long, sweeping horizontal stroke extending to the right.

E. B. King
President

cc: Roger Foisey, Central Utah District Health Dept., Richfield.
Bruce Hall, Central Utah District Health Dept., Nephi.
Wayne Hedberg, Oil, Gas & Mining